AMENDMENTS TO THE SPECIFICATION

In the Specification

Please substitute the following amended paragraph(s) and/or section(s) (deleted matter is shown by strikethrough and added matter is shown by underlining):

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Col. 1, lines 54-58:

Where D is the height of the flow channel, v the fluid velocity, ρ the density, and μ_e the fluid viscosity. Furthermore, the pressure drop, ΔP, along the channel is expressed differently for laminar flow [that] than for turbulent flow which occurs [and] at higher Reynolds numbers.

Col. 1, line 63 – Col. 2, line 11:

Where K and K' are constants of proportionality that depend on the engineering units selected. It can be clearly seen that the pressure drop, hence, the throttling effect on the flow stream is a linear relationship to the fluid velocity for laminar flow and a velocity squared relationship for the turbulent flow case. Obviously the ideal case is a linear relationship of pressure loss to flow velocity across the throttling range. A less desirable situation is the square law response where the response of the valve continuously varies over the throttling range. Any configuration that results in the flow response being linear over a portion of the range and transitioning to square law at some point will have a detrimental effect on the ability of the controller to smoothly regulate the flow. In addition[s], since both relationships contain the length factor L in the numerator it is desired to have some length to the throttling path.

Col. 2, lines 12-31:

In order to provide a throttling effect it is necessary to control the opening of the fluid channel. Many means are described in the art. These are typically motors, solenoids, compressed air, or manual adjustment devices. The applications envisioned herein all contain a flow meter to measure the flow and advanced electronics to position the valve to achieve[d] the desired mass or volumetric flow rate. Thus, the position of the valve is not so much of interest as is the results measured by a suitable flow meter. However, in such feed back arrangement the valve undergoes continuous repositioning, and therefore must have a reliable drive mechanism with little or no backlash. Furthermore, as the fluids may be under pressures up to 100 psi the drive mechanism must operate with a wide range of axial loads. Generally drive mechanisms described in the references were judged as incapable of continuous repositioning, or would exhibit excessive backlash detrimental to smooth fluid control. A second feature found to be overlooked in the current art is the ability to remove the drive mechanism and inspect it without the risk of opening the fluid path.